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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,791	03/08/2001	Nicholas F. Borrelli	SP00-139	8335

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Svetlana Short
Corning Incorporated
SP-TI-3-1
Corning, NY 14831

EXAMINER	
KAO, CHIH CHENG G	
ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 10/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/802,791	Applicant(s) BORRELLI ET AL.
	Examiner Chih-Cheng Glen Kao	Art Unit 2882

-- Th MAILING DATE of this communication appears on th cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☒ Claim(s) *14 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 March 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

Fig. 1, "I/P Signal = 136-11380nm" and "O/P Signal = 136-11380nm"

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 14 is objected to because of the following informalities. Claim 14 recites the limitation "the similarly rare-earth doped glass" in line 3. There is insufficient antecedent basis for this limitation in the claim. This objection may be obviated by deleting "the" and inserting "a". Appropriate correction is required.

3. Claim 17 is objected to because of the following informalities. Claim 17 recites "and and" in line 2. This may be obviated by deleting one "and". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ainslie et al. (US Patent 4936650) in view of Auzel et al. (US Patent 5858891).

5. Regarding claims 1-3 and 6-12, Ainslie et al. discloses an optical amplifier (Abstract, lines 1-2) comprising an input (Fig. 3, #33), a length of glass-ceramic rare earth doped fiber coupled to the input (Fig. 3, #30) including a plurality of crystallite (Abstract, lines 1-3) less than 100nm (col. 4, lines 20-22) and greater than 100ppm of Nd (col. 4, lines 23-25) and essentially none in the surrounding glass (Fig. 2, and col. 3, lines 44-54), coupled with an optical pump (Fig. 3, #34), an output (Fig. 3, #35), and an optical component between the input and output (Fig. 3, #37).

However, Ainslie et al. does not disclose at least 95% or essentially all of rare earth dopant in the crystallites.

Auzel et al. teaches at least 95% (Abstract, lines 4-5, and col. 2, lines 49-51) or essentially all (Abstract, lines 4-5) of the rare earth is in crystalline.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have at least 95% or essentially all dopant of Auzel et al. with the device of Ainslie et al., since one would be motivated to include the dopant in the glass-ceramic fiber for high effective sections and good quantum efficiencies as shown by Auzel et al. (col. 1, lines 10-16) when a signal is transmitted through.

6. Regarding claim 4, Auzel et al. in view of Ainslie et al. suggests a device as recited above.

However, Auzel et al. does not disclose crystals less than 10nm.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have crystals less than 10nm with the suggested device of Auzel et al. in view of Ainslie et al., since where in the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. One would be motivated to have the crystals less than 10nm in order to exhibit the required optical transparency, which is most appropriate for laser and optical amplification applications as shown by Auzel et al. (col. 2, lines 37-40) instead of larger crystals, which will cause optical scattering which is unsuitable for a laser as shown by Auzel et al. (col. 1, lines 47-50).

7. Claims 5 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ainslie et al. in view of Auzel et al. as applied to claims 1 and 7 above, and further in view of Bange et al. (WO 98/54607).

Ainslie et al. in view of Auzel et al. suggests a device as recited above.

However, Ainslie et al. does not disclose emission and absorption lines of glass-ceramic fiber narrower than a precursor or similar glass nor narrower peaks at 1320 to 1360 nm.

Bange et al. teaches emission lines of glass-ceramic fiber narrower than the precursor or similar glass for narrower peaks (Fig. 2).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the emission lines of Bange and the absorption lines with the

suggested device of Ainslie et al. in view of Auzel et al., since these lines are considered intrinsic properties of the different chemical compositions themselves. Something which is old does not become patentable upon the discovery of a new property. The claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. One would be motivated to have these emission lines along with the absorption lines for higher optical clarity as shown by Bange et al. (Page 1, lines 9-16).

Secondly, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to have 1320 to 1360 nm peaks with the suggested device of Ainslie et al. in view of Auzel et al. and Bange et al., since finding the optimum or workable range involves only routine skill in the art. It would have just been a matter of engineering efficiency to fine tune the waveguide for lasers in a type of system such as telecommunications in the 1300nm range as implied from Bange et al. (Page 4, lines 15-16). One would be motivated to use optical waveguides with peak emissions in a range to send a stronger signal.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ainslie et al. in view of Auzel et al. as applied to claim 7 above, and further in view of Arima (US Patent 6217204)

Ainslie et al. in view of Auzel et al. suggests a device as recited above.

However, Ainslie et al. does not disclose a filter.

Arima teaches a filter (Fig. 1, #10).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the filter of Arima with the suggested device of Ainslie et al. in

view of Auzel et al., since one would be motivated to have the filter to reduce noise as shown by Arima (col. 1, lines 61-67).

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ainslie et al. in view of Auzel et al. as applied to claim 7 above, and further in view of Samson et al. (WO 98/02388).

Ainslie et al. in view of Auzel et al. suggests a device as recited above.

However, Ainslie et al. does not disclose a shift in ESA from 1320 to 1360 nm.

Samson et al. teaches ESA shifting (Page 3, lines 1-5).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the shifting of Samson et al. with the suggested device of Ainslie et al. in view of Auzel et al., since one would be motivated to shift ESA to avoid compromising on efficiency as implied from Samson et al. (Page 1, lines 10-11).

Secondly, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to have shift from 1320 to 1360 nm with the suggested device of Ainslie et al. in view of Auzel et al. and Samson et al., since finding the optimum or workable range involves only routine skill in the art. Again, one would be motivated to shift ESA to avoid compromising on efficiency as implied from Samson et al. (Page 1, lines 10-11).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (703) 605-5298. The examiner can normally be reached on M - Th (8 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

gk
September 30, 2002

ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800